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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,578	04/15/2004	Andrew Aaron	728-242	8668

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EXAMINER	
NEWAY, SAMUEL G	

ART UNIT	PAPER NUMBER
2626	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/825,578	AARON ET AL.	
	Examiner	Art Unit	
	SAMUEL G. NEWAY	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-15 and 18-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-15 and 18-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is responsive to the amendment after non-final filed on 20 February 2009.

2. Claims 1 – 7, 9 – 15, and 18 – 23 are still pending and considered below. All independent claims 1, 9, and 18 have been amended.

Response to Amendment

3. The rejections of method claims 1 – 7 under 35 USC § 101 are withdrawn.

4. The rejections of system claims 9 – 15 under 35 USC § 101 still stand (see rejections below).

Response to Arguments

5. Applicant's arguments filed 20 February 2009 have been fully considered but they are not persuasive.

Applicant argues that Brittan fails to disclose modifying text in the TTS processing. The Examiner respectfully disagrees. Brittan discloses that the language generator, which processes and outputs text as shown in Fig. 4, may insert pauses in front of certain words ([0063] to [0065]). In other words, the language generator modifies text by inserting pauses to mark and identify certain words.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 9 – 15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

In claims 9 – 15, a "system" is recited; however, according to Applicant's specification, the system would reasonably be interpreted by one of ordinary skill in the art as software, per se (Applicant's specification, page 3, lines 17-21 and page 5, lines 19-22). The elements recited as part of the system, a rare sequence detector and a speech synthesizer, are not explicitly and deliberately defined in the specification, and it appears that such would reasonably be interpreted as representative of the program code which causes detection to occur.

Program code is functional descriptive material and therefore non-statutory, absent being claimed in combination with the necessary hardware to enable the software to act as a computer component and realize its functionality.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1 – 3, 9 – 11, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brittan et al (US PGPub 2002/0184030) in view of Silverman (USPN 5,652,828).

Claim 1:

Brittan discloses a method for improving the intelligibility of speech output by a speech synthesizer (Abstract), comprising the steps of:

determining if uncommon words exist in a text; and if it is determined that an uncommon word exists in the text, marking the text to identify the uncommon word ("the language generator 23 can be arranged to … insert pauses in front of certain words", [0063] to [0065]. Note that the language generator processes and outputs text, see Fig. 4 item 23 and related text), outputting synthesized speech by the speech synthesizer (Fig. 4, item 6 and related text) by inserting a pause before ("insert pauses in front of certain words", [0065]) and after ("a pause inserted at the end of the dubious utterance", [0090]) the output of the synthesized speech of the uncommon word to offset the uncommon word from its surrounding speech ("insert pauses in front of certain words, such as non-dictionary words and other specialized terms and proper nouns (there being a natural human tendency to do this)", [0065]. Note that the non-dictionary words, the specialized terms, and the proper nouns are determined before a pause is inserted).

Brittan does not explicitly disclose inserting a pause within the output of the synthesized word and where the pauses inserted in the synthesized speech have variable lengths as claimed.

In a similar speech synthesis system, Silverman discloses inserting a pause within the output of a synthesized word, inherently increasing the duration of the word, ("Thus for example "Silverman" is often spelled out as "S-I-L, V-E-R, M-A-N". These groups are separated from each other by insertion of a slight pause", col. 12, lines 53-

60) and where the pauses inserted in the synthesized speech have variable lengths ("pauses longer before an address after a long name than after a short one", col. 16, lines 10-14).

It would have been obvious to one with ordinary skill in the art at the time of the invention to insert a pause in the output of Brittan's synthesized uncommon word in order to provide more natural synthesized speech (Silverman, col. 12, line 66 to col. 13, line 4). It would also have been obvious to one with ordinary skill in the art at the time of the invention to insert variable lengths pauses in synthesized speech in order "to give the listener time to perform any necessary backtracking, ambiguity resolution, or lexical access", (Silverman, col. 16, lines 10-14)

Claim 2:

Brittan and Silverman disclose the method of claim 1, Brittan further discloses wherein the determination is made by comparing the input text to common words stored in a database and determining if a word is uncommon if the word is not in the database (" … such as non-dictionary words … ", [0065]).

Claim 3:

Brittan and Silverman disclose the method of claim 1, Brittan further discloses wherein a word is determined as uncommon if the word is capitalized ("… proper nouns …)", [0065]).

Claims 9 – 11:

System claims 9 – 11 and method claims 1 – 3 are related as system and the method of using same, with each claimed element's function corresponding to the

claimed method step. Accordingly claims 9 – 11 are rejected with the same rationale as applied above with respect to method claims 1 – 3.

Claims 18 and 19:

Brittan and Silverman do not explicitly disclose encoding the methods of claims 1 and 3 on a computer program device. It is old and well-known to encode program code for performing a method on a computer storage medium and implement instructions corresponding to the program code on a computer's processor. Implementing the method of Brittan and Silverman as software on a computer readable medium would be an obvious modification to one of ordinary skill in the art of speech recognition, at the time of applicant's invention, so as to facilitate loading the software onto a computer to perform the steps listed above. Accordingly, claims 18 and 19 are rejected with the same rationale as applied above with respect to method claims 1 and 3.

10. Claims 4 – 7, 12 – 15, and 20 – 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brittan et al (US PGPub 2002/0184030) in view of Silverman (USPN 5,652,828) and in further view of Lu et al (USPN 5,819,260).

Claims 4 and 5:

Brittan and Silverman disclose the method of claim 1, but they do not explicitly disclose wherein the determination is made by using a statistical language model which compares a calculated value with a threshold value and if the calculated value is less than the threshold value the word is determined as uncommon.

In a phrase recognition method, similar to Brittan's word determination, Lu processes phrases to determine frequency of occurrence (col. 4, lines 14-15).

It would have been obvious to one with ordinary skill in the art at the time of the invention to determine the frequency of occurrence of a word and label it as uncommon if the frequency is below a threshold because, by definition, uncommon words are rare.

Claims 6 and 7:

Brittan and Silverman disclose the method of claim 1, but they do not explicitly disclose wherein the determination is made by using a prediction algorithm which compares a calculated value with a threshold value and if the calculated value is less than the threshold value the word is determined as uncommon.

In a phrase recognition method, similar to Brittan's word determination, Lu processes phrases to determine frequency of occurrence (col. 4, lines 14-15).

It would have been obvious to one with ordinary skill in the art at the time of the invention to determine the frequency of occurrence of a word and label it as uncommon if the frequency is below a threshold because, by definition, uncommon words are rare.

Claims 12 – 15:

System claims 12 – 15 and method claims 4 – 7 are related as system and the method of using same, with each claimed element's function corresponding to the claimed method step. Accordingly claims 12 – 15 are rejected with the same rationale as applied above with respect to method claims 4 – 7.

Claims 20 – 23:

Brittan and Silverman do not explicitly disclose encoding the methods of claims 4 – 7 on a computer program device. It is old and well-known to encode program code for performing a method on a computer storage medium and implement instructions

corresponding to the program code on a computer's processor. Implementing the method of Brittan and Silverman as software on a computer readable medium would be an obvious modification to one of ordinary skill in the art of speech recognition, at the time of applicant's invention, so as to facilitate loading the software onto a computer to perform the steps listed above. Accordingly, claims 20 – 23 are rejected with the same rationale as applied above with respect to method claims 4 – 7.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAMUEL G. NEWAY whose telephone number is (571)270-1058. The examiner can normally be reached on Monday - Friday 8:30AM - 5:30PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R Hudspeth can be reached on 571-272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R Hudspeth/
Supervisory Patent Examiner, Art Unit 2626

/Samuel G Neway/
Examiner, Art Unit 2626